# INTISARI

Spons dengan struktur tubuh berpori menjadi inang yang baik bagi mikroorganisme untuk berasosiasi dan menghasilkan senyawa bioaktif. Mikroorganisme yang berasosiasi dengan spons diduga besar memiliki peranan dalam menghasilkan senyawa bioaktif yang kemungkinan memiliki kemampuan sama dengan spons, sehingga dapat digunakan sebagai sumber penemuan senyawa obat baru dan alternatif eksplorasi spons secara langsung.

Fungi Sal 9 asosiasi spons *Stylissa flabelliformis* adalah fungi asosiasi spons. Fungi Sal 9 difermentasi dan diekstraksi hingga diperoleh ekstrak metabolit. Selanjutnya, ekstrak metabolit diuji golongan senyawa dan bioaktivitasnya. Uji golongan senyawa yang terdapat di dalam ekstrak etil asetat fungi Sal 9 dilakukan untuk mengetahui adakah perubahan produksi metabolit fungi Sal 9 asosiasi spons *Stylissa flabellformis* menggunakan metode KLT. Uji bioaktivitas yang dilakukan adalah uji sitotoksik. Aktivitas sitotoksik diuji secara *in vitro* dengan metode MTT terhadap sel kanker T47D hingga diperoleh nilai $IC_{50}$ dari %viabilitas sel. Analisis nilai $IC_{50}$ dilakukan menggunakan regresi linier (Microsoft Excel).

Hasil penelitian menunjukan terjadi perubahan produksi metabolit fungi Sal 9 dengan diketahui adanya golongan senyawa flavonoid dalam ekstrak etil asetat fungi Sal 9 asosiasi spons *Stylissa flabelliformis*. Ekstrak etil asetat fungi Sal 9 asosiasi spons *Stylissa flabelliformis* memiliki efek *moderate* sitotoksik dengan nilai $IC_{50}$ 629,65 µg/mL.

**Kata kunci** : fungi Sal 9 asosiasi spons *Stylissa flabelliformis*, fermentasi, uji sitotoksik metode MTT, uji KLT.

# *ABSTRACT*

Sponges with its porous body are a good host for microorganisms to associate and producing bioactive compounds. The microorganisms associated with sponges are believed to have role in producing bioactive compounds that are likely to have the same ability as its sponge therefore they can be used as a source of new drug compounds and alternative for sponge exploration.

Fungi Sal 9 sponge association of *Stylissa flabelliformis* is a fungi associated sponge. Fungi Sal 9 was fermented and extracted to obtain the metabolite. Furthermore, the metabolite extract was tested for its compound identification and bioactivity. The compound identification was conducted to find out whether there were any changes in the metabolite production of fungi Sal 9 using TLC method, therefore the compound contained in the extract of ethyl acetate fungi Sal 9 is known. The bioactivity test was cytotoxic test. Cytotoxic activity was conducted using MTT Assay on T47D cancer cells and $IC_{50}$ value was obtained based on % cell viability. $IC_{50}$ analysis was performed using linear regression (Microsoft Excel).

The results showed that there was a change in the metabolite production of fungi Sal 9 and flavonoid was the contained compounds in ethyl acetate extract of fungi Sal 9 sponge association of *Stylissa flabelliformis*. Also, ethyl acetate extract of fungi Sal 9 sponge association of *Stylissa flabelliformis* had moderate cytotoxic effect with $IC_{50}$ of 629,65 μg/mL.

**Keywords** : fungi Sal 9 sponge association of *Stylissa flabelliformis*, fermentation, cytotoxic test MTT assay, TLC assay.